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OTOPHIDIUM WELSHI, A NEW CUSK EEL, WITH
NOTES ON TWO OTHERS FROM THE
GULF OF MEXICO.¹

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In reviewing certain material from the Gulf of Mexico it was found that an undescribed *Otophidium* was represented therein, which is believed to be entirely worthy of specific rank, while two other species of the family *Ophidiidae*, although known, have been so far only described from very scant material which makes the redescrptions embodied in this paper necessarily of some value to students of these little known fishes. The material which forms the basis of this description and the two redescrptions was collected under the direction of the United States Bureau of Fisheries; the writers being indebted to that institution for permission to make use of the specimens.

The accompanying sketches are from the pen of Mr. W. W. Welsh, being drawings which he had executed for his personal notes. He probably expected at some date to use them in descriptions of these forms, which plan he was prevented from carrying out by his untimely demise.

Lepophidium brevibarbe (Cuvier).

A short spine at tip of snout. Occiput and opercles scaly. The scales do not run forward of the anterior margin of pupil above, and do not reach posterior margin of pupil below. Developed gill-rakers 4 in number. Scales about 170 to 185, not closely imbricated and somewhat irregularly arranged, the longitudinal rows above the lateral line, anteriorly, oblique to it, running diagonally backward and upward, those immediately below the lateral line more or less parallel to it, those lower down more or less

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parallel to the ventral outline. This causes anterior rows to converge towards a point in the middle of the side. Dorsal and anal in alcohol,

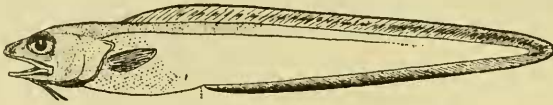


FIG. 1—*Lepophidium brevibarbe* (Cuvier).

narrowly margined with black. Head 5.0 in length to base of caudal (205 mm. specimen) to 4.8 (130 mm. specimen). Depth 7.4 to 8.3; pectoral 10.8. Eye 4.4 to 4.0 in head; snout 4.4 to 4.5; maxillary 2.1; pectoral 2.2; longest ventral filament 3.9 to 3.5, in the largest and smallest specimens, respectively; interorbital in eye, 1.5; maxillary extends to posterior margin of eye.

Head somewhat smaller, pectoral slightly shorter, scales somewhat fewer than described for *Lepophidium proratus* (Jordan & Bollman) of the Pacific.

Three specimens, 205, 187 and 130 mm. to base of caudal. Taken by the "Grampus" in 7 fathoms of water off Galveston, Tex., (Station 10478) March 9, 1917, trawl.

***Ophidion holbrooki* (Putnam).**

No spine at tip of snout or on opercle. Head scaleless. Scales on body rudimentary, embedded, linear, placed approximately perpendicularly to one another in groups, as in *Anguilla*, variable in length, maximum approximately half pupil. Air bladder slender, tapering backward as figured by Putnam (Proc. Bost. Soc. Nat. Hist. 1874, 342). Gillrakers 4. Dorsal



FIG. 2—*Ophidion holbrooki* (Putnam).

and anal narrowly margined with black. Head 4.0 in length to base of caudal (in 232 mm., $8 \frac{7}{8}$ in. specimen) to 4.6 (in 152 mm., $6 \frac{1}{8}$ in. specimen). Depth 5.2 to 6.8; pectoral 10.4 to 10.5; eye 5.2 to 4.0 in head; snout 4.3 to 4.0; maxillary 2.3 to 2.3; pectoral 2.6 to 2.3 in head; longest ventral filament, 2.2 to 1.8; interorbital in eye 1.4 to 1.6; in the largest and smallest specimens, respectively. Maxillary extends approximately to posterior margin of pupil.

These measurements give smaller head and other proportional differences from (6 inch) *holbrooki*, as described by Putnam. As there is considerable age variation we do not feel justified in describing our material as new on that basis.

Three specimens 232, 182 and 152 mm. in length to base of caudal. Taken by the "Grampus" in $10 \frac{1}{2}$ fathoms, 11 miles SSW from Heald Lightship (Station 10479) March 16, 1917, trawl.

Otophidium welshi, new species.

The type, No. 85512, United States National Museum, collected at Grampus Station 10478, southwest from Braye's Light, Texas, in ten fathoms of water, trawl. Head scaleless, scales ending on the nape, on a vertical over the opercle. Scales on body rudimentary, embedded, linear,



FIG. 3—*Otophidium welshi*, new species.

about 3 to 4 times as long as broad, approximately placed perpendicularly to one another in groups, as in *Anguilla*, variable in length, maximum approximately half pupil. Air bladder short, thick, with very large ventral foramen which is encompassed by a thickened ridge. A concealed spine on the margin of the opercle. Gill-rakers 4. Length, 194 mm. to base caudal. Head 5.2 in that length; depth 6.4; pectoral in head 1.6; eye 5.1; snout 4.5; maxillary 2.3; longest ventral filament 1.5; interorbital 5.1. Profile low and slanting to past middle of eye, then rising abruptly to a high gibbous rounding keeled nape. Four lengthwise dark bands on the side. The uppermost solid; confluent with its fellow across the back and expanding irregularly on the nape. The three lower ones increasingly broken, so that the lowermost, on a level with the pectorals, consists of only a few vague marks, entering an irregular jagged blotch in front, which it shares with the band above it. Preorbital, suborbital and postorbital regions punctulate with dark dots. A dark blotch on upper margin of opercle. These dark body markings are seal brown in alcohol. Dorsal pale basally, with an elongate black marginal blotch between $\frac{1}{2}$ and $\frac{1}{3}$ the length of the head, beginning near its origin. Behind this blotch the fin is edged with a narrow dusky margin, which broadens slightly backward and becomes narrow again and ill-defined on the caudal, though meeting the broad black margin of the anal below. Anal pale basally, but with inconspicuous dark punctuations. Pectorals pale, punctulate with brown at margin and on base.

Another specimen with the same data is 199 mm. in length. Head 5.1, depth 6.6. Otherwise identical with type. *Otophidium welshi*¹ is distinguished by its striped coloration, its gibbous nape, and its proportions, the latter of which is most like *Otophidium galeoides* (Gilbert) of the Gulf of California.

¹Named for memory of William W. Welsh, the collector.